

## CLAIMS

1. A method of operating a surgical burr during performance of an orthopaedic procedure, the method comprising the steps of:  
determining position of the surgical burr and generating an output  
5 signal in response thereto, and  
adjusting operation of the surgical burr in response to generation of the output signal.
2. The method of claim 1, wherein the adjusting step comprises  
10 adjusting speed of the surgical burr.
3. The method of claim 1, wherein the adjusting step comprises increasing speed of the surgical burr.
- 15 4. The method of claim 1, wherein the adjusting step comprises decreasing speed of the surgical burr.
5. The method of claim 1, wherein the determining step comprises determining position of the surgical burr relative to an anatomical feature of a patient.  
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6. The method of claim 1, wherein the determining step comprises determining position of the surgical burr relative to a predetermined boundary around an anatomical feature.

7. The method of claim 6, wherein the adjusting step comprises increasing speed of the surgical burr if the surgical burr is positioned within the predetermined boundary.

5                   8. The method of claim 6, wherein the adjusting step comprises decreasing speed of the surgical burr if the surgical burr is positioned outside of the predetermined boundary.

9. An orthopaedic surgical system, comprising:  
10                   a surgical burr,  
                    a surgical navigation system operable to determine position of the surgical burr during an orthopaedic procedure,  
                    a processor electrically coupled to both the surgical burr and the surgical navigation system, and  
15                   a memory device electrically coupled to the processor, the memory device having stored therein a plurality of instructions which, when executed by the processor, cause the processor to:  
                    (a) communicate with the surgical navigation system to determine position of the surgical burr and generate an output signal in response thereto, and  
20                   (b) adjust operation of the surgical burr in response to generation of the output signal.

10. The orthopaedic surgical system of claim 9, wherein the plurality of instructions, when executed by the processor, further cause the processor to adjust  
25   the speed of the surgical burr in response to generation of the output signal.

11. The orthopaedic surgical system of claim 9, wherein the plurality of instructions, when executed by the processor, further cause the processor to increase the speed of the surgical burr in response to generation of the output signal.

5                   12. The orthopaedic surgical system of claim 9, wherein the plurality of instructions, when executed by the processor, further cause the processor to decrease the speed of the surgical burr in response to generation of the output signal.

10                   13. The orthopaedic surgical system of claim 9, wherein the plurality of instructions, when executed by the processor, further cause the processor to determine the position of the surgical burr relative to an anatomical feature of a patient.

15                   14. The orthopaedic surgical system of claim 9, wherein the plurality of instructions, when executed by the processor, further cause the processor to determine the position of the surgical burr relative to a predetermined boundary around an anatomical feature.

20                   15. The orthopaedic surgical system of claim 14, wherein the plurality of instructions, when executed by the processor, further cause the processor to increase the speed of the surgical burr if the surgical burr is positioned within the predetermined boundary.

16. The orthopaedic surgical system of claim 14, wherein the plurality of instructions, when executed by the processor, further cause the processor to decrease the speed of the surgical burr if the surgical burr is positioned outside of the predetermined boundary.

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17. An orthopaedic surgical system, comprising:  
a surgical burr,  
a surgical navigation system operable to determine position of the surgical burr during an orthopaedic procedure, and  
10 a controller configured to adjust operation of the surgical burr based on output from the surgical navigation system.

18. The orthopaedic surgical system of claim 17, further comprising a display monitor configured to display a visual indication of the position of the  
15 surgical burr during the orthopaedic procedure.

19. The orthopaedic surgical system of claim 17, wherein the controller is configured to control speed of the surgical burr based on output from the surgical navigation system.

20. A method of operating a surgical burr during performance of an orthopaedic procedure, the method comprising the steps of:

determining position of the surgical burr relative to a predetermined boundary of a bone feature to be removed and generating an output signal in response thereto, and  
5 adjusting operation of the surgical burr in response to generation of the output signal.

21. The method of claim 20, wherein the adjusting step comprises  
10 adjusting speed of the surgical burr.

22. The method of claim 20, wherein the adjusting step comprises increasing speed of the surgical burr.

15 23. The method of claim 20, wherein the adjusting step comprises decreasing speed of the surgical burr.

24. The method of claim 20, wherein the adjusting step comprises increasing speed of the surgical burr if the surgical burr is positioned within the  
20 predetermined boundary.

25. The method of claim 20, wherein the adjusting step comprises decreasing speed of the surgical burr if the surgical burr is positioned outside of the predetermined boundary.